ENCHROACHMENT INVESTIGATION USING GIS

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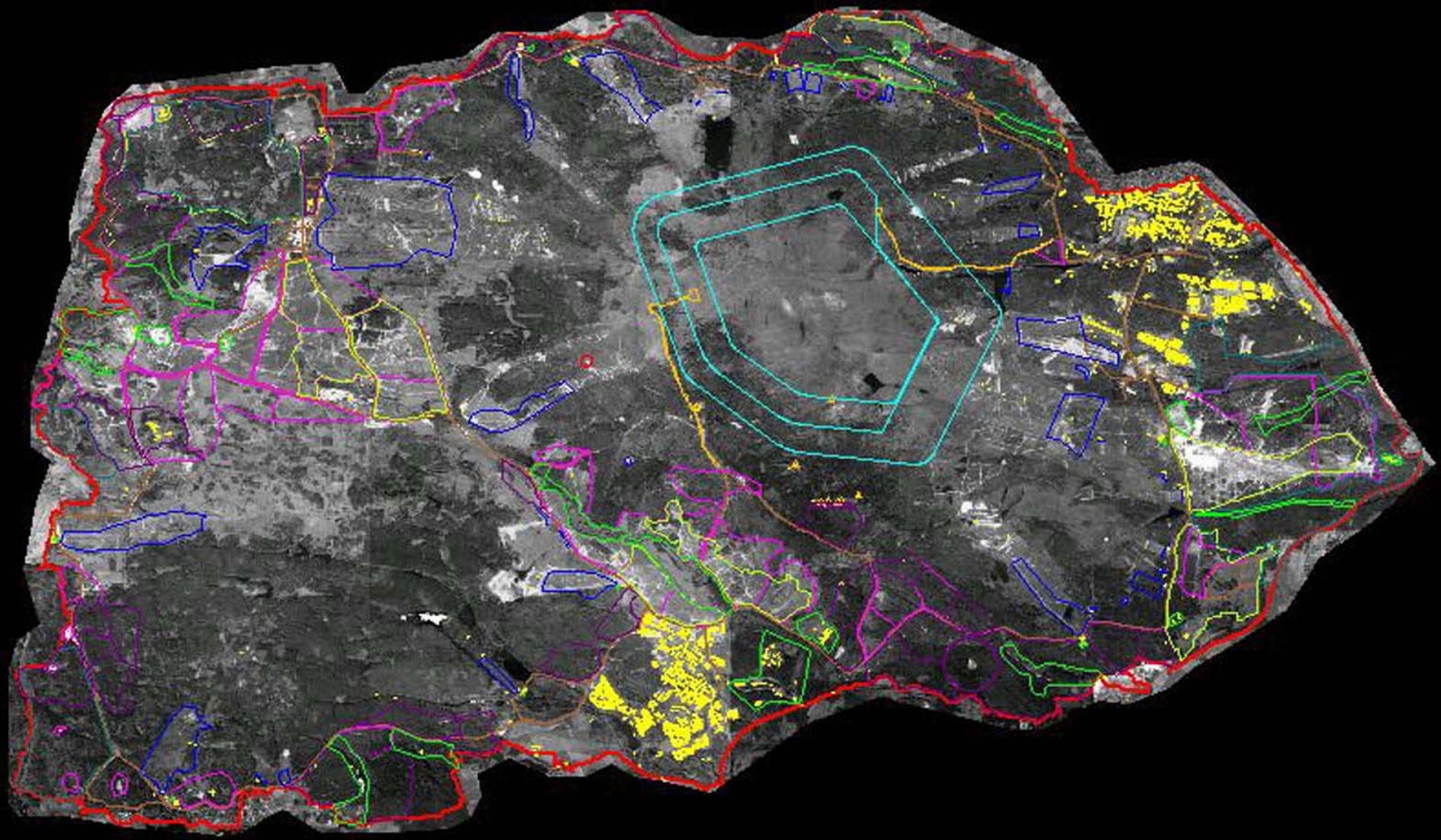
INTRODUCTION

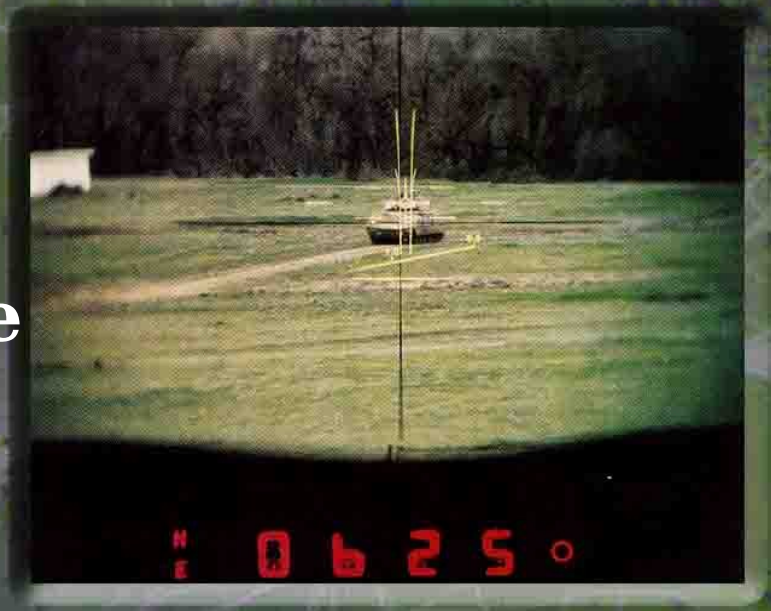
- Study Area
- Description of the Problem
- Assumptions
- Method Devised to Address the Problem
- Analysis
- Results
- Lessons Learned
- Conclusions

STUDY AREA



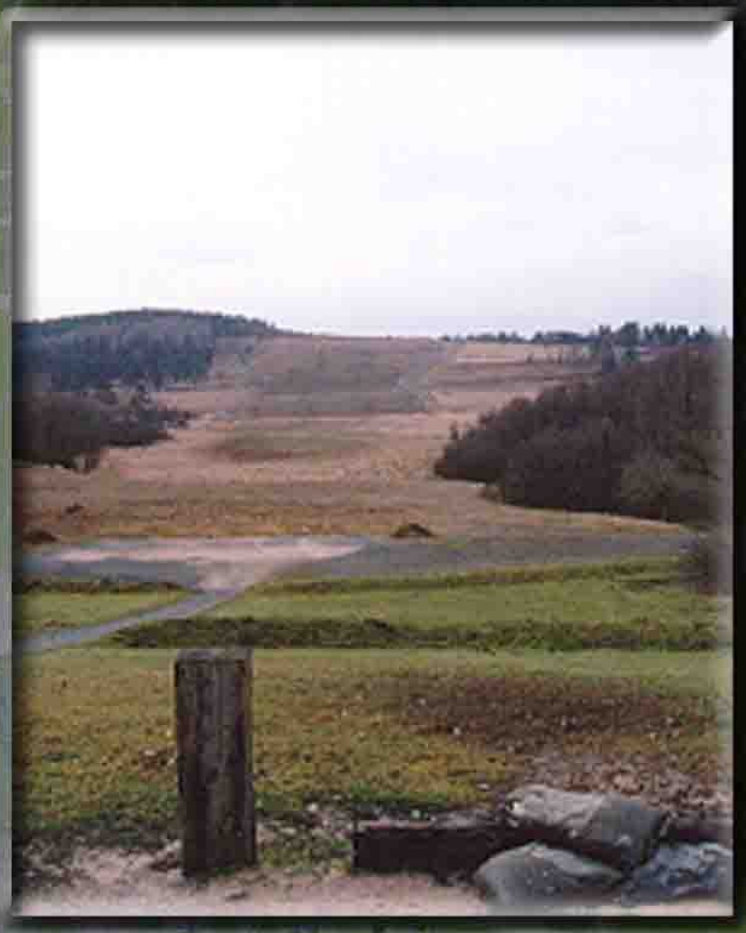
THE PROBLEM

- **Continual Disagreement of Priorities (Suspected Loss of Maneuver Space)**
- **No Record of Past Decisions – Baseline**
- **No Facts on Which to Base Future Decisions**



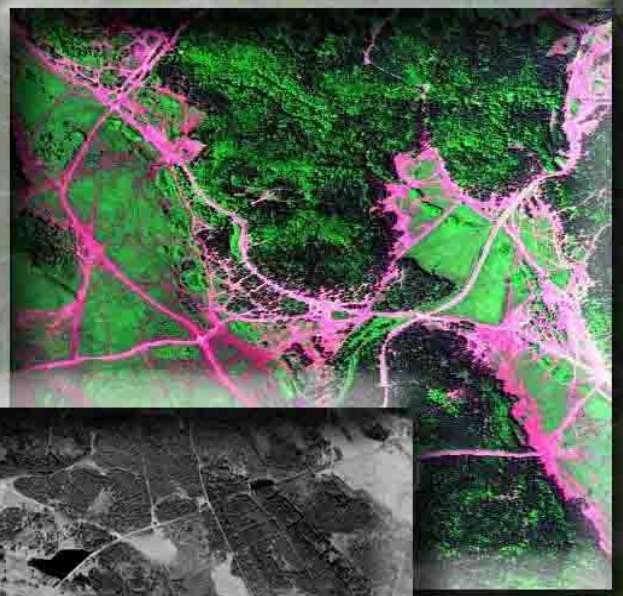
ASSUMPTIONS

- What is a forest?
  - According to German Law
  - According to the US Army
- Importance of Location
  - Impact Areas
  - Cantonment Areas
  - Maneuver Areas



METHOD

- **Data Collection**
  - **Aerial Photos**
    - **1945, 1952, 1953, 1963, 1973, 1974, 1983, 1988, 1999**
  - **Satellite**
    - **SPOT data - 1986 (30m) & 1992 (10m)**
  - **Airborne HSS**
    - **HYMAP 1999 (4.5m)**

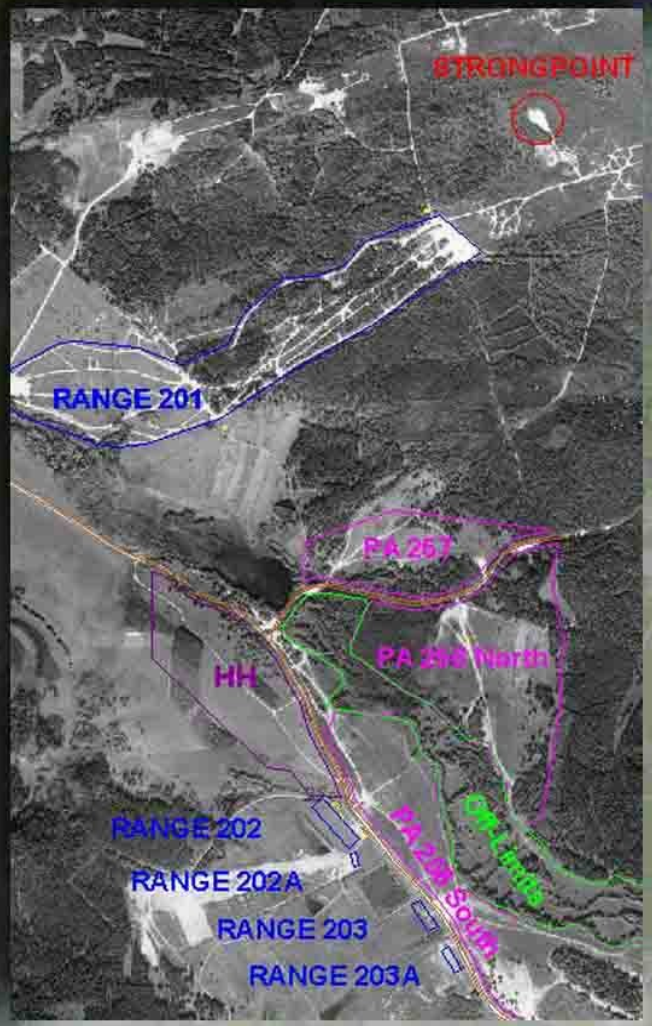


Combined into one full coverage mosaic

Full coverage

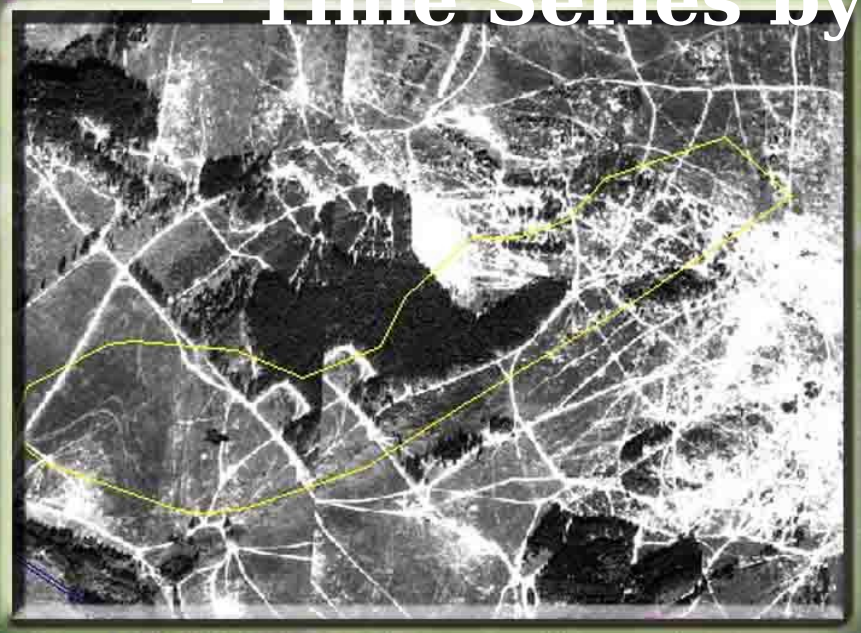
METHOD (2)

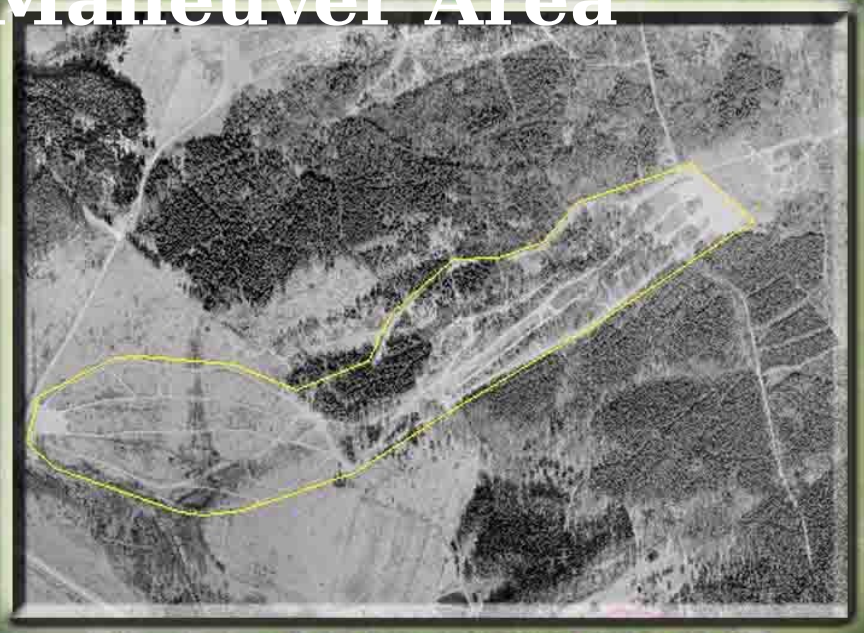
- **Preparing the Data**
  - **Scanning**
  - **Orthorectification**
  - **Digitizing**
  - **Layer Attribution**
- **Analysis**



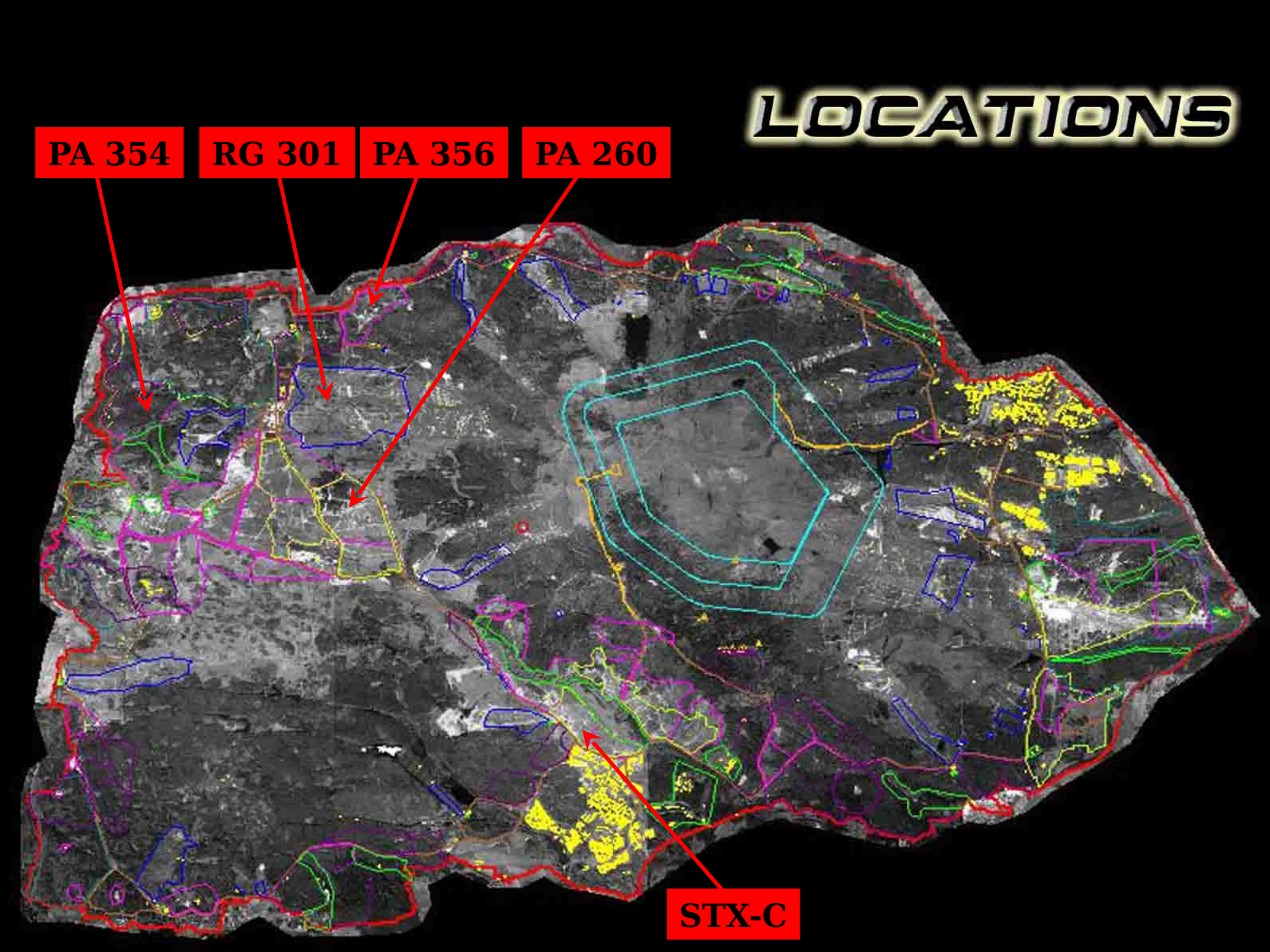
ANALYSIS

- **Spatial Analysis**
  - **Time Series for the Entire Training Area**
  - **Time Series by Maneuver Area**





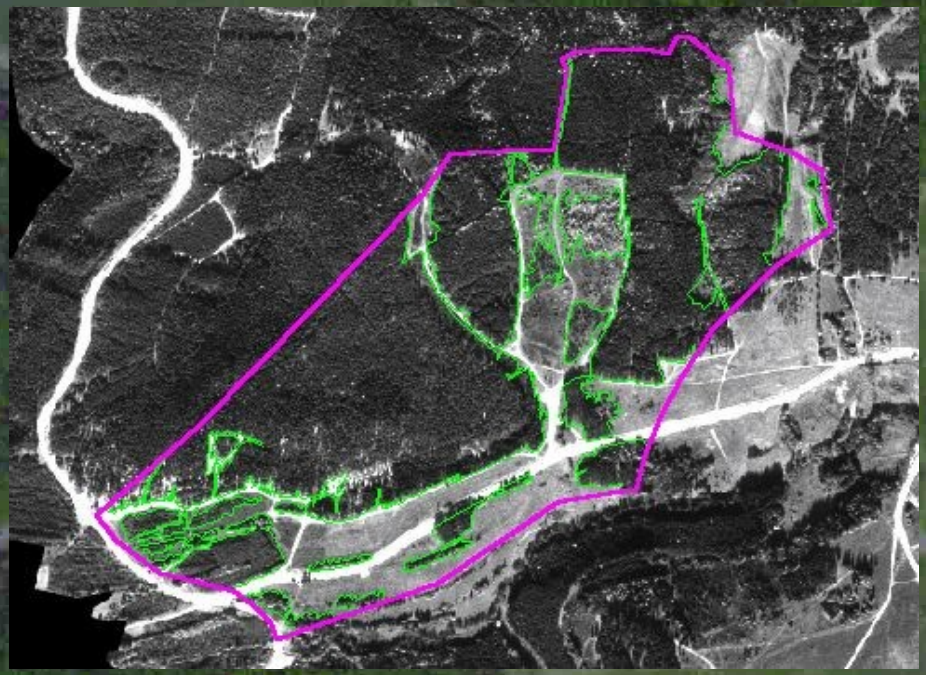
LOCATIONS



RESULTS

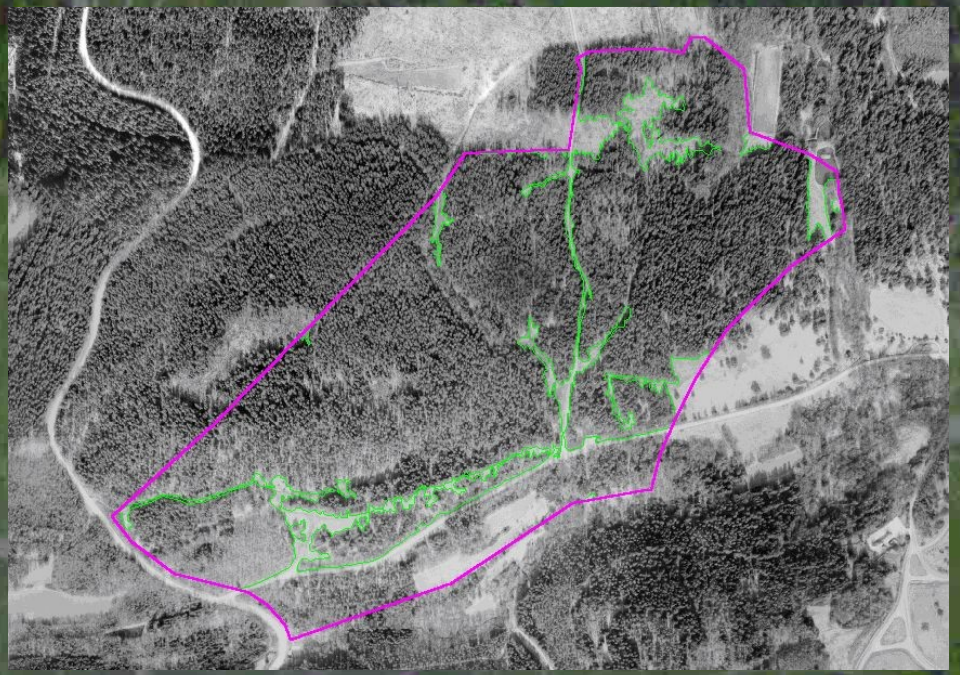
PA 354

1963



8,990,423 m²

1999



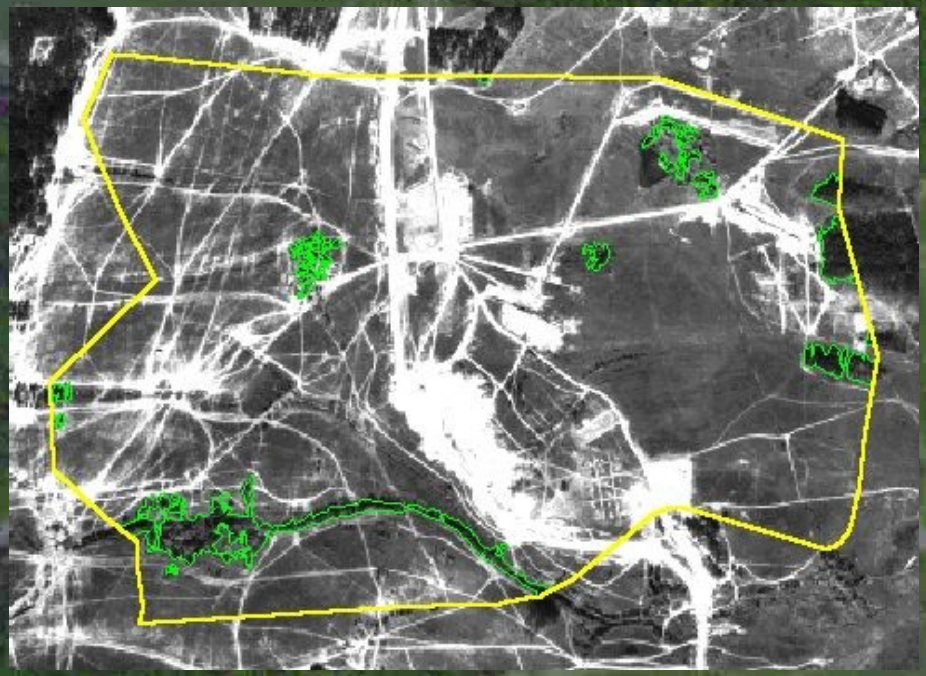
11,803,048 m²

+31% Change

RESULTS

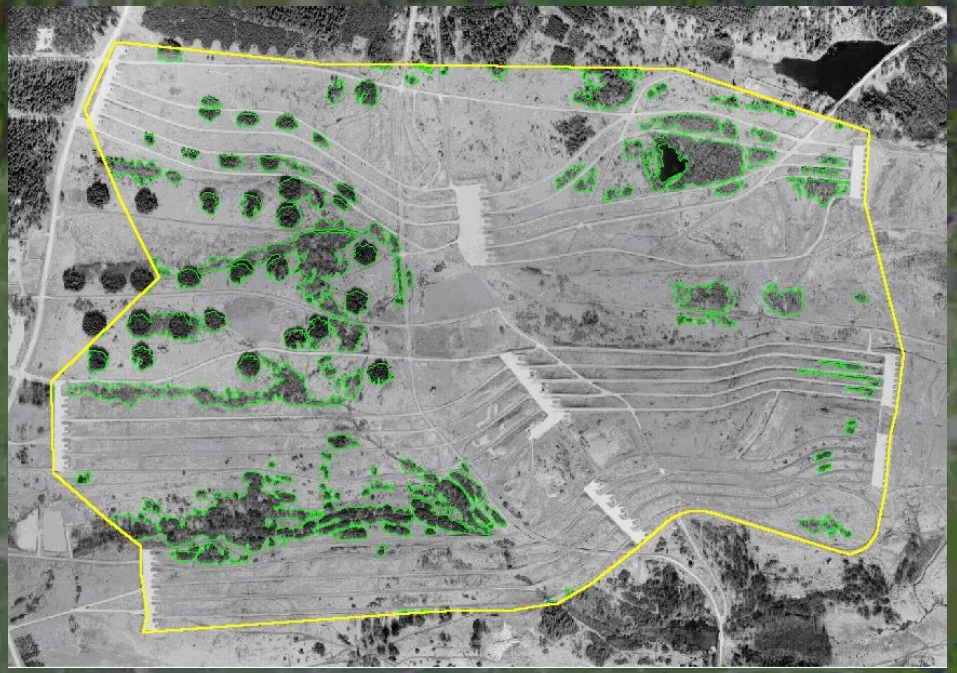
RANGE 301

1963



275,118 m²

1999



1,182,760 m²

+329% Change

RESULTS

STX-C

1963

0 m²

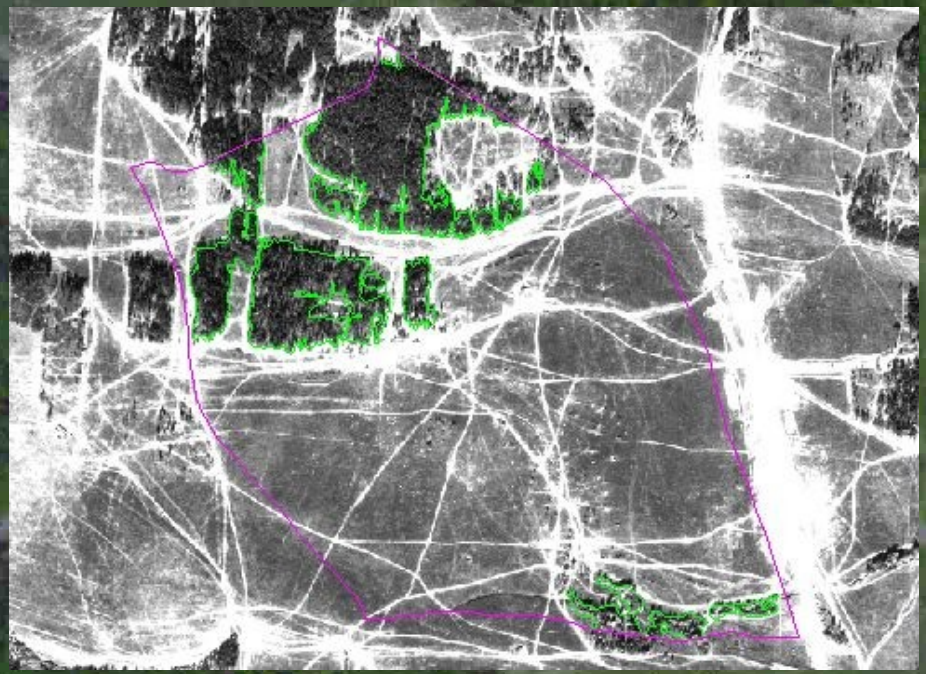
1999

6,675 m²

RESULTS

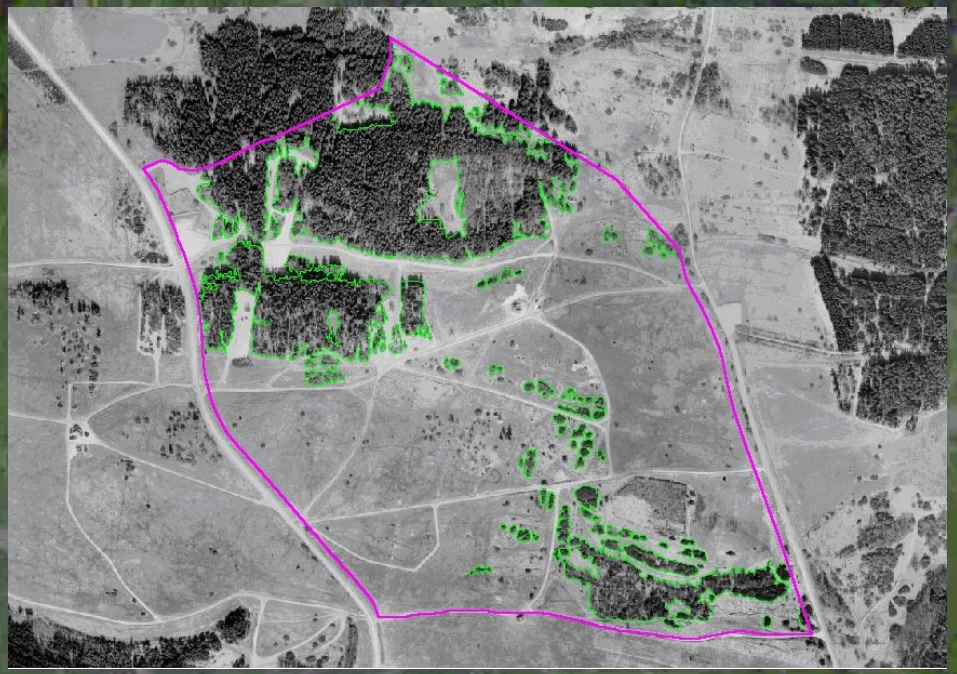
PA 260

1963



269,170 m²

1999



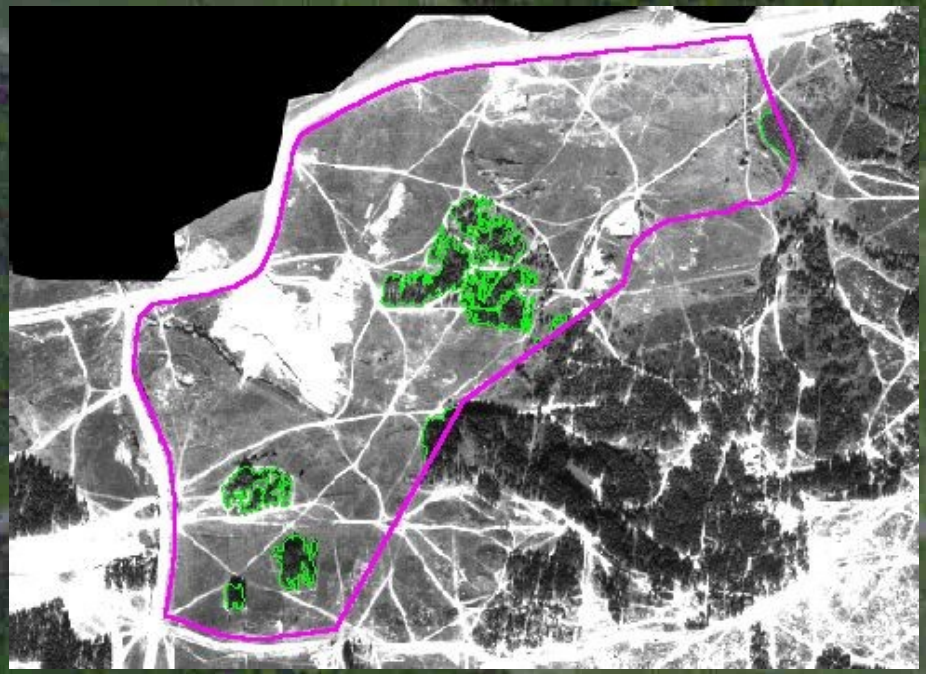
1,391,443 m²

+416% Change

RESULTS

PA 356

1963



350,392 m²

1999

9,418,022 m²

+2,587% Change

LESSONS LEARNED

- Was this a Useful Project?
- About Imagery?
- About Aerial Photos?
- About Digitizing?

CONCLUSIONS

- **Is there encroachment *'inside the fence'*?**
- **Has it impacted maneuver space?.....**
- **By how much?...Where?**

- **Final Thought**
  - **Value of forests in real $$ versus the US Army presence in the county/state**